Senate bill.[125] The wholesale pricing provision contained in the House bill, however, contemplated that wholesale pricing would apply to every "service, element, feature, function, or capability provided, ..."[126] The version of the legislation ultimately enacted contemplates "wholesale rates . . . for the telecommunications service requested."[127] This change in the applicability of the wholesale pricing standard was necessary in light of the compromise that took place at Conference -- namely, inclusion of the top-down retail-based wholesale formula for existing telecommunications services and the bottom-up cost-based formula for network elements, including features, functions, and capabilities.

In sum, the Commission is charged with promulgating pricing standards that harmonize the three goals of the 1996 Act: facilitating local exchange competition, keeping telephone rates affordable, and compensating network providers for their costs. While there are many ways for costs to be recov-

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125 The House and Senate bills relied on different pricing standards. The House bill relied on wholesale pricing based on retail rates; whereas the Senate bill relied on cost-based pricing for each "unbundled element of the interconnection provided." Compare H.R. 1555, 104th Cong., 1st Sess. new § 242(a)(3)(1995) with S. 652, 104th Cong., 1st Sess. new §§ 251(b) & (d)(6)(1995).

126 H.R. 1555, 104th Cong., 1st Sess. new § 242(a) (3)(1995).

127 47 U.S.C. § 252(d)(3).

ered, accommodation of the other two goals greatly narrows the number of methodologies that are available as satisfactory options. Perhaps the most appropriate for accomplishing all of the goals is efficient component pricing ("ECPR"), which has been tentatively rejected by the Commission as an appropriate pricing methodology.[128] In fact, ECPR is the approach that most closely parallels the method that a firm in a competitive market would employ when faced with the opportunity of selling inputs to firms that intend to compete with it in its final product market.[129]

The methodology satisfies the goal of efficient entry of competitors by providing appropriate investment incentives for both the incumbent LEC and the competitor to invest in their businesses. If final product prices are sufficient to induce investment to meet end user demands, then prices that make the incumbent LEC as well off as if it had sold in the final product market would likewise provide incentives to continue to invest in the business. Competitors using these inputs will enter and begin providing products to

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128 *NPRM* paras. 147-148.

129 W.J. Baumol & J.G. Sidak, Toward Competition in Local Telephone, 99-101 (1994).

end users if they can sell to end users as efficiently or effectively as the input supplier.

The Commission's preliminary conclusion that ECPR is not acceptable appears based on the misconception that ECPR will thwart the driving of prices toward competitive levels, as well as on some outdated criticism of the approach. It is true that ECPR does hold entrants to a standard of efficient entry and denies them subsidies from the incumbent LECs, which they might otherwise want to have. Both of these results, however, serve the public interest and thus should be desired by the Commission. ECPR in no way thwarts the movement of prices toward competitive levels where competition is provided by a more efficient carrier than the incumbent LEC. Moreover, the one study cited as critical of ECPR is more than two years old, is limited in its implications, and has been superseded by substantial new research and discussion.[130] Accordingly, the Commission should not reach any conclusion that ECPR is inconsistent with the 1996 Act on the basis of the current inadequate record and misconceptions about ECPR.

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[130] See *NPRM* at n.209.

IV. FEDERAL REGULATIONS SHOULD NOT MICROMANAGE IMPLEMENTATION OF THE NEGOTIATION AND ARBITRATION MODEL DESIGNED BY CONGRESS.

A. Interconnection And Access To Network Elements Beyond The Core Required By Federal Regulations Are Best Developed Through Good Faith Requests During Negotiations.

As the Commission has contemplated, interconnection and access to network elements beyond those required pursuant to any federal core requirements created by this rulemaking proceeding should evolve through requests as part of good faith negotiations.[131] The information exchanged during the course of good faith negotiations in response to a request would serve to develop a factual basis upon which the negotiating carriers could determine technical feasibility and whether the subject request met the federal regulations ultimately promulgated by the Commission pursuant to this rulemaking. The Commission, however, should clarify that procedures established by a state regulatory agency or by individual incumbent LECs for purposes of responding to requests for interconnection and access to unbundled network elements pursuant to sections 251(c)(2) and (c)(3) must be designed to fit within the statutory 135-day timetable provided

[131] <u>See</u> *NPRM* para. 97 (noting that Illinois has required certain unbundling only in response to a bona fide request).

for voluntary negotiations.[132] In addition, similar to the earnest fee arrangement permitted in New York, the Commission should require that such requests include a commitment by the requesting carrier to order the interconnection or network element in the quantity requested or else to reimburse the incumbent LEC for the costs incurred in responding to such request. This will ensure the good faith nature of the request and cost recovery by the incumbent LEC as envisioned by Congress.[133]

In addition, the Commission should clarify that existing interconnection agreements need be submitted for state approval only if they are incorporated by reference into an interconnection agreement negotiated pursuant to section 251(c)(1).[134] Contrary to the argument advanced by ALTS,[135] any

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[132] For an example of a process for responding to new requests that fits within the statutory timetable for voluntary negotiations, see Letter from Ameritech to Regina Keeney, Chief, Common Carrier Bureau, of 3/12/96, at 29-32. See also general discussion of bona fide request process discussed in USTA Comments, CC Docket No. 96-98 (filed May 16, 1996).

[133] See *NPRM* para. 62 (discussing earnest fees as possible tool for ensuring good faith requests); see also Ill. Admin. Code tit. 83, § 790.320.

[134] See *NPRM* para. 48 (seeking comment regarding whether agreements that pre-date the 1996 Act must be submitted for state approval).

[135] See id. n.63.

interconnection agreement that pre-dates enactment of the 1996 Act simply cannot be an agreement reached through a request and voluntary negotiations pursuant to section 252(a)(1) and, therefore, need not be submitted to the relevant state commission for approval pursuant to section 252(e).[136] In other words, pre-existing interconnection agreements need to be submitted for approval by the state commission only if the parties to such agreement enter into negotiations anew and subsequently reach an agreement which incorporates by reference, or else leaves untouched, the preexisting agreement (or portions thereof). To the extent that two incumbent LECs are party to an interconnection agreement, such as when connecting carriers enter into extended area service arrangements, then either party could seek renegotiation because both parties have the duty to negotiate in good faith requests made by any telecommunications carrier for interconnection, services, or network elements.[137]

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136 The sentence of 252(a)(1) relied on by ALTS begins with the words "The agreement . . .," which clearly refer to the first sentence of that provision, thereby precluding application of the filing requirement of agreements reached before passage of the 1996 Act.

137 See *NPRM* para. 48 (requesting comment on whether one party to an existing agreement may compel renegotiation).

B. The Commission Should Not Interject Litigation-Type Requirements That Are Conspicuously Absent From The Detailed Arbitration Process Prescribed By Congress.

Congress in section 252 has set forth in detail a process for compulsory arbitration. The intent behind section 252 is to give the parties the opportunity to agree upon as many terms as possible through negotiation.[138] Section 252 does not contemplate discovery, hearings, witnesses, cross-examination, or other similar procedures. Instead, the section 252 arbitration is essentially a paper process which relies on two key documents filed by the parties to the underlying negotiation within statutorily prescribed timeframes. The petitioning party files a petition with supporting documentation setting out the open issues and the positions of the parties with respect to those issues. The non-petitioning party in turn may file a response providing any additional information it deems appropriate.

Additional procedures or regulations are unnecessary, would be inconsistent with the 1996 Act, and would undermine the ability of a state commission to make its arbitration determination within the limited period of time pro-

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138 *Senate Committee Report* at 19-20 ("The Committee intends to encourage private negotiation of interconnection agreements. . . ."). The Joint Conference Committee receded to the Senate on Sections 252(a) and (b). See *Conference Report* at 125.

vided for in the 1996 Act. Efforts to introduce bureaucratic or litigation-oriented rules and regulations that are conspicuously absent from the detailed arbitration procedure prescribed by Congress would turn arbitrations into unnecessarily adversarial and litigious proceedings and accordingly could have the effect of delaying competitive entry by encouraging parties to hold out for arbitration. The relatively short timeframe for the arbitration process -- specifically, resolution of all unresolved issues within nine months of receiving a request under section 251(c)(1) -- also counsels against the addition of trial-type procedural requirements.

C. Section 252(i) Should Be Interpreted As Requiring That Agreements Be Made Available To Similarly Situated Carriers Consistent With The 1996 Act And Past Commission Practice.

Section 252(i) requires all LECs to make available to any other requesting carrier any interconnection, service, or network element provided under an agreement approved by a state commission to which it is a party upon the same terms and conditions as those provided in the agreement. This statutory requirement gives other carriers the opportunity to obtain the same agreement. It does not entitle requesting carriers to "cherry-pick" from among provisions contained in an agreement reached through negotiation. Agreements reached through voluntary negotiation under section 251(a) are necessarily developed through a process of give-and-take and compromise. Each term may be agreed to as specific consideration for some other term. Therefore, it would be discriminatory to allow carriers to pick and choose provisions from among such state-approved agreements, and would violate the 1996 Act's mandate that such interconnection, service or network element be available "upon the same terms and conditions as those produced in the agreement." (emphasis added) Instead, consistent with the practice in all other contexts -- in particular, AT&T contract tariffs -- LECs should be obligated to make available only such interconnection, service, or network element provided under a state-approved agreement or a statement of generally available terms, subject to all applicable terms and conditions contained therein.[139]

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[139] See Competition in the Interstate Interexchange Marketplace, *Report and Order*, 6 FCC Rcd 5880, 5902-03 (1991), aff'd on recon. 10 FCC Rcd 4562 (1996) (preventing carriers from cherry-picking from AT&T contract tariffs). Just as the Commission has done in the context of determining whether services are functionally equivalent within the meaning of Section 202(a) of the Communications Act, incumbent LECs should be obligated to make the negotiated agreement, when viewed as a whole, available to requesting carriers. See, e.g., Beehive Telephone, Inc. v. The Bell Operating Companies, *Memorandum Opinion and Order*, 10 FCC Rcd 10562, para. 31 (1995) (finding that services must be considered as a whole, rather than based on common elements for purposes of determining functional equivalency under Section 202(a)).

V. CONCLUSION

The federal implementing regulations should establish core national requirements necessary for the rapid development of competition in all telecommunications markets and protection of consumer welfare. The national pricing principles should be consistent standard economic principles and allow for the recovery of all costs. The Commission should refrain from establishing overly detailed regulations that attempt to micromanage negotiations between carriers. As contemplated by Congress, the particular terms and conditions of interconnection and access to network elements, including arrangements beyond the federal core, should evolve through good faith negotiations between carriers.

Respectfully submitted,

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Issues Concerning the Providing of Unbundled Subloop Elements by Ameritech

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Introduction and Background

This report, based on an analysis of the Ameritech network, identifies issues in providing unbundled subloop elements. Unbundling of any element must be approached cautiously to maintain network integrity, ensure reasonable service intervals, and manage costs. Because of the multiplicity of possible subloop elements, the unknown demand for subloop elements, and the wide variation of loop plant characteristics, providing subloop elements is particularly complex. Because of these and other factors (described below in detail), subloop unbundling should be approached with caution, if at all. If regulators determine that such unbundled subloop elements are required to promote competition, an examination of each subloop request on a case-by-case basis should occur.

Outside Plant Design Considerations

In order to understand the implications of unbundled subloop elements, it is necessary to examine the outside plant that provides telephone loops in companies such as Ameritech. A loop consists of a transmission path between the network interface (NI) located at the customer's premises and the main distribution frame (MDF) or other designated cross-connect facility in the Central Office (CO). Loops are defined by the electrical service interfaces they provide rather than by the media or technology used to provide the loop facility.

The loop network, or Outside Plant (OSP), is comprised of feeder and distribution plant. The feeder portion can consist of traditional copper from the MDF to the feeder distribution interface (FDI), such as a Serving Area Interface (SAI) or other metallic cross-connect fixture. Also, it may consist of copper- or fiber-fed digital loop carrier (DLC), which produces derived cable pairs as feeder to the FDI. The feeder pairs, or F1 pairs, are cross-connected to the distribution pairs, or F2 pairs, at the FDI. In some cases, as with downtown high-rise buildings or other customer locations that have large service demands, the copper cables serving these locations extend directly from the MDF to the NI inside the building without any intermediate cross-connect facility.

The geography served by the outside plant is segmented into areas that have common transmission characteristics and design criteria (e.g., length and wire gauge requirements). Each feeder route emanating from the central office provides loop facilities for many of these geographic segments. The distribution and feeder plants are planned to accommodate service demand forecast for the area served with the appropriate capacity and technology. The geographic segments of the OSP are the fundamental components of the loop network.

The CO provides the logical location at which to establish standard repeatable processes to accomplish interconnection in an equitable and efficient manner. Standard electrical characteristics are typically at the MDF which is planned and designed to facilitate connecting loop facilities to different network resources, such as the local serving switch, interoffice facilities or other network elements. Due to this loop design, the MDF (or other cross-connect facility) in the CO provides the natural location to direct unbundled loops to switching facilities or other network elements of certified local exchange companies (CLECs).

Therefore, provisioning entire unbundled loops, that is, loops originating at the MDF and terminating at the NI is a reasonable method for offering the use of existing facilities to market entrants, for which intensive capital investment is infeasible or impractical. In fact, Ameritech began offering use of unbundled loop facilities in Illinois and Michigan in 1995; projections indicate that by year end 1996, over 45,000 Ameritech loops will be used by CLECs with a projected ongoing growth rate exceeding 100% per year.

In contrast to the unbundling of complete loops, subloop unbundling would raise a variety of additional issues concerning planning, network architecture, operational processes, and operations support system capabilities. Careful planning on these issues is required to maintain the integrity, reliability, and security of the network.

Planning Issues

The demand for unbundled subloop elements is unclear. The engineering, provisioning, and pricing of unbundled subloop elements will depend on the projected market demand for specific subloop elements. Since there is no historic data in the Ameritech region or other areas) for quantifying demand for subloop elements and, in general, no clear statements of intent or commitment to subscribe to specified volumes of subloop elements, projecting market demand for such elements is highly speculative.

Network Architecture Issues

To assess the feasibility of unbundling loop facilities into subloop elements, the variability of the OSP must be considered. The predominant loop designs present in the Ameritech network include approximately 12% of loops served via DLC, 73% of loops provided via FDIs, and 27% of loops fed directly from the MDF to customer sites without FDIs (numbers approximate: the total exceeds 100% because DLC loops also have FDIs).

Subloop interconnection is unavailable on 27% of Ameritech loops. Subloop unbundling is possible for the 27% of loops that are directly connected via copper cables. For the remaining loops, while a DLC or FDI location may seem to afford a possible site for interconnection, several factors mitigate against this as a standard policy.

The following examples illustrate specific implications of interconnection at the subloop element level:

Many existing SAIs are not capable of handling subloop interconnection. SAIs are implemented to provide feeder to distribution connection for a specific geographic serving area containing an identifiable number of living units or other customer sites with a specific forecasted service demand. Each SAI is designed to provide a specific feeder to distribution ratio that is appropriate for the area served. The SAI is sized to afford termination of the total number of feeder pairs and distribution pairs needed based on the expected service demands of the area served. In many cases, SAIs are ordered from the manufacturer with cable pairs preconnectorized and terminated in the factory.

SAIs can be pole mounted (if the size of the "box" permits) or ground mounted on a concrete pad. In either case, provision for the entry of a specific number of cable sheaths is provided. Typically, the full compliment of cables that can enter are provided upon initial installation and extended to locations in the feeder and distribution portions of the loop.

If a CLEC required access for some number of facilities to this cross-connect fixture, it is probable that the whole SAI would need to be replaced to provide this increase in cross-connect capability. As there is a size restriction for pole mounted fixtures, it is possible that replacement may involve relocation of the fixture to a new site with a concrete pad. Additionally, appropriate engineering, construction, and acquisition of right-of-way may be needed to move the fixture.

In the case of a pad mounted fixture, a determination of the best method for replacement would be required. This may depend upon the particular supplier's fixture design, the age of the fixture, the overall condition of the fixture and cross-connections inside, the type of splicing methods used (e.g., connectorized or not), the size of concrete pad, the number of conduits provided for cable entry, the amount of slack that can be provided for the entry cables, and several other possible considerations including how large the new fixture should be.

In addition, the number of CLECs that should be afforded access to the replacement fixture is unknown, as is the number of cross-connects to be provided for each one. This complicates the issues of cost recovery for all involved parties.

In Illinois, Ameritech has in excess of 24,000 above ground cabinets and 240 Controlled Environment Vaults (CEVs) with additional sites being installed each year. The effort to rebuild even a small fraction of these sites would be significant.

Space and interoperability issues limit existing Remote Terminal (RTs) capability for subloop interconnection. RT sites are custom designed and configured for specific vendor equipment and specific service requirements. For example, one vendor's above ground cabinet can provide a maximum of 2016 derived lines. The space within this cabinet is fully utilized by the vendors' own transmission equipment, related support equipment (e.g., power equipment, batteries, protection) and existing feeder and distribution terminations.

In the case of CEVs, 16- and 24-foot long versions are available. The CEV size is selected based on the service demands of the area to be served and space requirements of contained equipment. Typically these units are pre-assembled at a factory prior to being shipped to a job site. As the cost of these units is very high, all available space inside the CEV has a planned use (e.g., each shelf in each equipment rack is designated for use). As a result, there typically is no undesignated space remaining to afford a CLEC the opportunity for entry.

Even if space in an RT were available, there are still significant technical and cost issues to be considered. DLC systems are specifically designed for a single provider network. More specifically, they are designed to operate in concert with a single CO-based unit (e.g., switch or central office terminal). Therefore, if space for a CLEC to place equipment capable of providing standard DS-1 interfaces to the Incumbent Local Exchange Carrier's (ILEC) RT were available, the majority of current RTs would not be equipped to interoperate with CLEC CO equipment.

Subloop unbundling causes new plant to be oversized. The administrative issue of cost recovery and sizing of new loop plant elements in ongoing normal construction programs is also a concern. The ILEC may be required to routinely increase the capacity (and therefore the cost) of each and every new SAI and DLC Remote Terminal introduced to the loop network by a factor based on speculative forecasts.

Subloop unbundling limits modernization of the outside plant. ILECs have been developing plans for the deployment of fiber-based broadband networks to provide multiple services, including voice telephony, high-speed interactive data, and video. These fiber-based networks also provide increased network integrity by replacing the more trouble-prone copper plant. This network modernization may be severely limited by the provision of subloop elements. If an interconnector has access to subloop elements in the copper plant, modernization of the plant to fiber could not be accomplished unless the interconnector was willing to discontinue use of its copper subloop elements. Therefore, subloop elements have the potential to freeze the outside plant technology.

Subloop unbundling increases the likelihood of incompatible signals. The deployment of certain technologies is impacted by the presence of existing technologies in the loop plant. For example, Asymmetric Digital Subscriber Line (ADSL), used for Video Dial Tone and Internet access, cannot coexist with T1 line loops inside the same binder group of a copper cable. Spectrum compatibility guidelines are administered to prevent this from occurring at the time of provisioning. If the subloop is unbundled, there will be no way of preventing multiple providers from deploying incompatible technologies and no way of managing their deployment in the loop plant. Therefore, new and existing services may be degraded by subloop unbundling, and costly ongoing rearrangements may be necessary to restore service quality.

Subloop unbundling destabilizes the plant and decreases network integrity. Stabilization of Ameritech's current plant has been designed to limit the craft field activity required in the normal service activation process. This is accomplished by sizing FDIs to accommodate specific numbers of distribution and feeder facilities based on the number of living units or business customers served, and a forecast of expected service demand. Thus, any spare feeder facility can be easily connected to any distribution pair thereby reducing both the number of field locations visited per dispatch as well as reducing the number of dispatches required. Many times there is no provision for additional feeder facilities to enter these sites as would be required to afford interconnection capability to a CLEC.

For the last several years, both RT sites and FDIs have been designed using pre-connectorized cables to reduce the costs associated with installation of these loop elements. This pre-connectorization further complicates interconnection from alternate sources of feeder facilities in the case of RT sites, as the distribution emanating from the RT is effectively "hard wired" to the DLC equipment. In the case of FDIs, the preconnectorized cables occupy all of the cross-connect capability in the FDI precluding the introduction of any additional facilities.

Subloop unbundling will lead to increased levels of plant rearrangement in fixtures and splices to accommodate the various interconnector requests. Studies have shown that the level of rearrangement and change in fixtures and splices correlates directly with customer trouble reports. Thus, the increase in OSP work required to implement subloop unbundling decreases network integrity

Operational Issues

The manual work related to capacity provisioning (i.e., the planning and engineering associated with unbundled subloops), service activation (i.e., the initial provisioning of unbundled subloops), and service assurance (i.e., the ongoing proactive and reactive maintenance of those subloops) and its associated costs will be greater for subloop unbundling than for loop unbundling.

Subloop unbundling increases capacity provisioning costs. If use of subloops by CLECs is mandated, basic planning and engineering guidelines must be modified in order to ensure that all new growth investments allow for the possibility of CLEC demand at various interconnection points in the loop. For existing plant, as requests for entry are received by the ILEC, an engineer must study the particular network configuration in order to determine and document work required to enable the CLEC access to the plant requested (e.g., distribution plant from a cross-box to the customer's premises). It can take anywhere from hours to days for an engineer to analyze and draft an engineering work order.

Subloop unbundling increases service activation costs. A key factor which would contribute to increased work and cost for provisioning a service request centers around field dispatches required to visit the subloop interconnection points. Of all the work associated with service activation, outside plant craft work is second in cost to order negotiation for bundled loops. The fact that this cost has been contained is due to Ameritech's continued efforts to stabilize its plant through judicious use of rehabilitation and dedicated outside plant, thus reducing outside craft visits. Ameritech is currently experiencing a 20% dispatch rate for all bundled services (21% of service activation costs). In Illinois and Michigan, where unbundled loops have been offered, the dispatch rate has been as high as 36% (25% of service activation costs). However, with a required dispatch rate of 100% for subloop activation, the proportion of activation costs associated with outside dispatch rises to 46%. Overall, the total service activation cost per service request for a subloop is 5[illegible]% higher than a similar request for an unbundled customer premises to MDF loop. This increase is in spite of the fact that other work is eliminated (e.g., placing a cross-connect from the MDF to the interconnector's equipment).

Subloop unbundling increases service assurance costs. Currently, bundled telephone services benefit from automated testing systems that can quickly verify impairments and guide the dispatch of a technician to the fault location. Unbundling loops limits the availability of automated testing because the imbedded testing systems require access to the loop at the ILEC switch, which is unavailable in the unbundled loop. However, the appearance of the unbundled loop in a central office provides access for testing (with technician involvement or new access equipment required). Unbundled subloop elements will require a technician dispatch to a field site for every trouble report received from the interconnector. Even in the ideal case, where the interconnector employs testing systems and procedures equal to the ILEC, complexity and cost are increased. For example, for a fault near the subloop interface, even the best testing system cannot accurately identify whether the fault is in the ILEC's facility or in the interconnector's facility. In cases where the interconnector is unable to provide testing because no test system is available, or digital architectures that limit testing are used, maintenance costs and time to repair may be significantly increased. Multiple dispatches may be necessary to enable a technician with the required training and equipment to be sent to the fault location, and coordinated joint testing may be needed.

Without remote testing, costly dispatches will be required to clear cases of "no trouble found." The current percentage of "no trouble found" trouble reports in Ameritech is 37% of OSP trouble reports. At a per dispatch time of 2 1/2 hours, the impact of dispatches resulting in no trouble found is significant. Additionally, to ensure security and network integrity, an Ameritech dispatch is necessary for all trouble reports where the interconnector requires access to the interconnection point for testing. This requires costly coordinated dispatches when there may be no fault in the Ameritech network.

A scenario was constructed to examine the cost increases resulting from work involved in resolving a trouble report. Based on Ameritech's current processes and experience to resolve troubles reported in unbundled loops, the average cost for the service assurance process will increase by a factor of about 56% for subloop unbundling over the cost of that for unbundled loops.

Operation Support Systems Issues

Subloop unbundling requires either expensive modifications to existing OSSs, or labor intensive manual work-arounds. Timely and cost-effective engineering, provisioning, and administration of subloop elements may require significant enhancements to Ameritech's OSSs above and beyond those required for loop unbundling. The scope of these enhancements and the timing of their implementation will depend on the type and configuration of subloop elements being offered, and the volume and frequency of the requests. Whereas manual work-arounds may be viable for a small volume of requests, a mechanized approach will be more effective at higher volumes.

While no complete determination of the cost and timing of the necessary software system enhancements has been completed to date, preliminary examination shows that current system functionality will need to be enhanced to handle entry, storage, display, and communication of subloop location information. Consider, for example, changes in the service order flow-through process (i.e., the ability to provision service requests with no manual OSS intervention). The loop assignment system [LFACS] currently assumes a loop connecting the central office to the customer premises. It has limited ability to stop or start assignments mid-loop. In order to receive meetpoint and meetpoint location information and assign to those meetpoints, it may require LFACS to be fully rearchitected, or replaced, at considerable expense and time. In addition, in cases where digital loop electronics are involved, administratively difficult and costly preallocation of facilities may be needed.

Similarly, the interface between the service order administration and the assignment function [SOAC to LFACS] would need to be extended to handle other than F1 loop information. SOAC would need to be able to send this information to the circuit connectivity location and equipment inventory database [NSDB] which would also need to be enhanced to store and display loop information other than F1 feeder plant. If digital loop electronics are involved (and are being modeled in the central office equipment inventory system [SWITCH]), then SOAC needs to send the meetpoint and meetpoint location information to SWITCH as well.

In situations where the CLEC is providing the distribution portion of the loop to the customer premises, there may also be an impact on any systems currently containing a "living unit" field [e.g., ACIS SAG]. These systems may need to be able to distinguish between both the ILEC's meetpoint with the CLEC and the actual customer location. ACIS SAG, SOAC, LFACS and other related systems would have to be studied to better understand this impact. Also, LFACS would need to be enhanced to accept pre-specified F1 loops from the CLEC.

Subloop unbundling also significantly complicates capacity planning. The loop planning system [LEIS] currently assumes an end-to-end loop. Its complex timing and sizing algorithms may require enhancements to handle spare capacity allocation and ownership assignment for subloop components.

In addition to the direct cost of enhancements of the OSSs, other related costs for subloop unbundling can be expected to be incurred. For example, the development of new or changed methods and procedures associated with system modifications and the associated training of technicians and other craft employees on these enhancements must also be considered.

As mentioned earlier, manual work-arounds would be necessary if the OSS enhancements are not undertaken. For example, each order would have to be coded for manual intervention by craft employees who would have to access each system in order to update and activate information. Such work-arounds would be required not only for each circuit set-up, but for all changes and disconnects as well. High flow-through has been essential for Ameritech to achieve its cost and quality objectives. Increasing the quantity of manual work-arounds is directly in conflict with these objectives.

Conclusion

This document identifies and examines issues associated with offering unbundled subloop elements in the Ameritech network. These issues are over and above those for intact loop unbundling, which Ameritech currently offers. Examination of these issues reveals that subloop unbundling will create enormous technical, administrative, and operational challenges that need to be contained by judicious limitation of subloop interconnection by the FCC.